

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of etching a semiconductor substrate, the method comprising the steps of:

applying ~~an~~ a caustic etching paste comprising an etchant and a thickener to a part or a layer of the substrate, wherein the semiconductor substrate is selected from the group consisting of a microcrystalline silicon substrate, a polycrystalline silicon substrate, an amorphous silicon substrate, a doped silicon substrate, a gallium arsenide substrate, a gallium arsenide phosphide substrate, a germanium substrate, and a silicon germanium substrate, and wherein the etchant is a water-based etchant selected from the group consisting of potassium hydroxide, sodium hydroxide, ammonium hydroxide, combinations thereof, and derivatives thereof; and

heating the substrate, such that the part or the layer of the substrate upon which the etching paste has been applied is etched.

2-4. (Canceled)

5. (Original) The method according to claim 1, wherein the etching paste comprises a synthetic etching paste.

6. (Original) The method according to claim 1, wherein the etching paste comprises a natural etching paste.

7. (Canceled)

8. (Original) The method according to claim 1, wherein the etching paste is applied selectively to a major surface of the substrate to form a pattern of applied paste.

9. (Original) The method according to claim 1, wherein the etching paste is applied by a selective deposition method.

10. (Original) The method according to claim 9, wherein the selective deposition method comprises screen-printing.

11. (Original) The method according to claim 1, further comprising the step of:

doping a region of the substrate to yield a doped region of the substrate, wherein the step of doping is conducted before the step of applying an etching paste, and wherein the step of applying an etching paste comprises applying an etching paste to the doped region of the substrate.

12. (Original) The method according to claim 11, wherein the substrate comprises a part of a solar cell, and wherein the doped region comprises an emitter region of the solar cell.

13. (Original) The method according to claim 1, wherein the etching paste is applied to at least one edge of the substrate.

14. (Original) The method according to claim 1, further comprising the steps of:
forming at least one metal contact on a base region of the substrate; and
forming at least one metal contact on an emitter region of the substrate.

15. (Original) The method according to claim 14, wherein the heating step yields an insulating region, wherein the insulating region is situated between the emitter region and the base region so as to isolate a metal contact from the emitter region.

16-24. (Canceled)

25. (New) The method according to claim 1, wherein the etchant comprises potassium hydroxide.

26. (New) The method according to claim 1, wherein the etchant comprises sodium hydroxide.

27. (New) The method according to claim 1, wherein the etchant comprises ammonium hydroxide.

28. (New) The method according to claim 1, wherein the etching paste further comprises a solvent.

29. (New) The method according to claim 28, wherein the solvent comprises water.

30. (Canceled)

31. (Currently amended) The method according to claim ~~30~~ 1, wherein the thickener is selected from the group consisting of a metal carboxyalkylcellulose salt, a hydrocolloid-forming cellulose, a starch, a physically modified hydrocolloid-forming cellulose, a chemically modified hydrocolloid forming cellulose, a physically modified starch, a chemically modified starch, a strongly hydrolyzed polyacrylamide gel, combinations thereof, and derivatives thereof.

32. (Currently amended) The method according to claim 1, wherein the etching paste comprises:

a solvent; and

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a wherein the thickener is selected from the group consisting of a metal carboxyalkylcellulose salt, a hydrocolloid-forming cellulose, a starch, a physically modified hydrocolloid-forming cellulose, a chemically modified hydrocolloid forming cellulose, a physically modified starch, a chemically modified starch, a strongly hydrolyzed polyacrylamide gel, combinations thereof, and derivatives thereof.

33. (New) The method according to claim 1, wherein the etching paste comprises an etchant comprising potassium hydroxide, a thickener comprising sodium carboxymethylcellulose, and a solvent comprising water.